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CENTRE FOR EXCELLENCE

MATHEMATICAL BIOLOGY (CEMB)

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SPEAKER

Prof. Ashok Srinivasan

TOPIC

Linking Simulations and Emerging Data Sources to Analyze Infection Risk in Crowded Locations

IN COLLOBORATION WITH

INDIAN SOCIETY FOR MATHEMATICAL MODELLING AND COMPUTER SIMULATION (ISMMACS)

DETAILS

3 May 2025

6 p.m. to 7 p.m. IST

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Popular Science Talk Series

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TOPIC

Linking Simulations and Emerging Data Sources to Analyze Infection Risk in Crowded Locations

ABSTRACT

Pedestrian dynamics simulates the fine-scaled movement of people in crowded locations. Proximity information from these simulations can identify effective interventions to reduce infection spread in crowded areas without disrupting human activities. However, their use is limited by the difficulty in capturing complex human behavioral choices, which varies with context, culture, and time. In this talk, we will discuss linking of simulations with data from location based services and real-time video streams to address the above challenges. However, broad use of pedestrian dynamics is hindered by the need for contributions from domains where experts lack substantial computing background. We will discuss our solution in the VIPRA cyberinfrastructure to ameliorate this problem.

SPEAKER

PROF. ASHOK SRINIVASAN, WILLIAM NYSTUL EMINENT SCHOLAR CHAIR AND PROFESSOR, UNIVERSITY OF WEST FLORIDA, USA

BIO

Dr. Ashok Srinivasan is the William Nystul Eminent Scholar Chair and Professor at the University of West Florida since 2018 and was a Program Director at the U.S. National Science Foundation from 2022 to August 2024. He obtained his Ph.D. in Computer Science from the University of California, Santa Barbara (UCSB). He performed postdoctoral research at the University of Illinois at Urbana-Champaign, subsequently held faculty positions at IIT Bombay, UCSB, and Florida State University, and is a Fulbright Fellow. His research, on applications of supercomputing to science and public health policy, has been funded by the National Science Foundation, National Institutes of Health, Department of Energy, Department of Defense, etc. He currently leads project VIPRA (www.cs.fsu.edu/vipra), on the spread of infections through air travel. Its results have been highlighted in over 300 news reports around the world and cited in testimony to the US Congress.

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